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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RAFIK ABDELMOULA, PATRICK THOMAS,  
LUCIA DELLA PUTTA, THIERRY RODRIGUES, and  
AMELIE SIMOENS

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Appeal 2015-006730  
Application 12/599,099  
Technology Center 1700

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Before JAMES C. HOUSEL, BRIAN D. RANGE, and MICHAEL G.  
McMANUS, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellants<sup>1</sup> appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–4, 8, 11–15, and 19–21. We have jurisdiction. 35 U.S.C. § 6(b). We AFFIRM.

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<sup>1</sup> According to the Appellants, the real party in interest is Federal Mogul Systems Protection. Appeal Br. 1.

## STATEMENT OF THE CASE

Appellants describe the invention as pertaining to a textile electromagnetic protection sheath. Appeal Br. 3. Appellants state that the sheath is designed to “prevent external electromagnetic signals from passing through the sheath” while also “permit[ting] the total mass of conductive material to be more evenly distributed across the surface of the protective sheath.” *Id.* at 4.

Appellants explain that prior sheathing had conductive filaments in both the longitudinal and transverse directions but that such sheathing was relatively heavy. Spec. 1. Appellants’ invention seeks to reduce weight by including conductive filaments in only one direction. *Id.* at 1–2.

Claim 1, reproduced below with emphasis added to a key recitation, is the only independent claim on appeal and is illustrative of the claimed subject matter:

1. A textile comprising:  
electromagnetic protection sheath,  
conductive filaments extending in a first direction, the conductive filaments being formed from braided copper wires **such that the conductive filaments protect against external electromagnetic signals**; and  
non-conductive filaments interlaced with said conductive filaments, such that said conductive filaments are thereby mutually insulated from each other.

Appeal Br.<sup>2</sup> 21 (Claims App’x).

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<sup>2</sup> In this decision, we refer to the Final Office Action mailed August 8, 2014 (“Final Act.”), the Appeal Brief filed February 10, 2015 (“Appeal Br.”), the Examiner’s Answer mailed May 6, 2015 (“Ans.”), and the Reply Brief filed July 6, 2015 (“Reply Br.”).

## REFERENCES

The Examiner relies upon the prior art below in rejecting the claims on appeal:

Yoshida et al., (hereinafter “Yoshida”)	US 4,929,803	May 29, 1990
Inoguchi et al., (hereinafter “Inoguchi”)	US 5,168,006	Dec. 1, 1992
Strange et al., (hereinafter “Strange”)	US 6,222,126 B1	Apr. 24, 2001
Sandbach	US 6,333,736 B1	Dec. 25, 2001
Hill et al., (hereinafter “Hill”)	US 2003/0211797 A1	Nov. 13, 2003
Laurent et al., (hereinafter “Laurent”)	US 2003/0221736 A1	Dec. 4, 2003

## REJECTIONS

The Examiner maintains the following rejections on appeal:

Rejection 1. Claims 1–4, 8, 12–15, 20, and 21 under 35 U.S.C. § 103 as unpatentable over Strange in view of Hill. Ans. 2.

Rejection 2. Claims 4 and 14 under 35 U.S.C. § 103 as unpatentable over Strange in view of Hill and further in view of Laurent. *Id.* at 4.

Rejection 3. Claims 11 and 19 under 35 U.S.C. § 103 as unpatentable over Strange in view of Hill and further in view of Inoguchi. *Id.*

Rejection 4. Claims 12 and 20 under 35 U.S.C. § 103 as unpatentable over Strange in view of Hill and further in view of Sandbach. *Id.* at 5.

Rejection 5. Claims 1–4, 8, 12–15, 20, and 21 under 35 U.S.C. § 103 as unpatentable over Yoshida in view of Strange in further view of Hill. *Id.* at 6.

Rejection 6. Claims 4 and 14 under 35 U.S.C. § 103 as unpatentable over Yoshida in view of Strange in further view of Hill and further in view of Laurent. *Id.* at 8.

Rejection 7. Claims 11 and 19 under 35 U.S.C. § 103 as unpatentable over Yoshida in view of Strange in further view of Hill and further in view of Inoguchi. *Id.*

Rejection 8. Claims 12 and 20 under 35 U.S.C. § 103 as unpatentable over Yoshida in view of Strange in further view of Hill and further in view of Sandbach. *Id.* at 9.

### ANALYSIS

We review the appealed rejections for error based upon the issues identified by Appellants and in light of the arguments and evidence produced thereon. *Cf. Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“it has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections”)). After having considered the evidence presented in this Appeal and each of Appellants’ contentions, we are not persuaded that Appellants identify reversible error, and we affirm the Examiner’s rejections for the reasons expressed in the Final Office Action and the Answer. We add the following primarily for emphasis.

Level of Ordinary Skill in the Art. Pursuant to the Supreme Court’s guidance in *Graham v. John Deere*, 383 U.S. 1, 17 (1966), we begin our analysis of the Examiner’s obviousness rejections by resolving the level of ordinary skill in the pertinent art. As Appellants’ note (Appeal Br. 6), our reviewing court has identified at least six “non-exhaustive” factors that “may be considered in determining level of ordinary skill in the art . . . (1) the

educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). Appellants, however, provide no evidence as to, for example, the first, fourth, and sixth factors.

Based on the Specification and prior art of record (including, for example, the Pithouse and Marks references cited by Appellants and U.S. Patent No. 4,684,762 to Gladfelter cited in the Specification), we find that problems faced in the art include, for example, providing electromagnetic shielding, reducing weight, and combining conductive and non-conductive material. *See, e.g.*, Spec. 1–2; Gladfelter 1:56–35. Contrary to Appellants’ view (Appeal Br. 6), the evidence in the record does not suggest that this technology is so sophisticated that a person would need specialized training in, for example, electromagnetic shielding in order to have “ordinary skill” in the art. Based on a preponderance of the evidence before us, we thus find that a person having ordinary skill in the art would have one or more years of education or experience in electronics, electrical engineering, and/or mechanical engineering.

Scope and Content of the Art. We next consider the scope and content of prior art. *Graham*, 388 U.S. at 17. This issue is of particular importance here because Appellants’ primary argument is that the Examiner’s application of the Strange, Hill, Laurent, and Yoshida references is erroneous because the references are not analogous art. *See, e.g.*, Appeal Br. 10–11, 14, 16. To label a reference as analogous art “merely connotes that it is relevant to a consideration of obviousness under § 103 as ‘prior art.’” *In re Sovish*, 769 F.2d 738, 742 (Fed. Cir. 1985).

Our reviewing court has stated that “[t]wo separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (citations and internal quotes omitted). While these two criteria are helpful in many instances, we must not lose sight of the key question at hand: what is “prior art” as that term is used in 35 U.S.C. § 103(a)? References that are “too remote to be treated as ‘prior art’” are excluded from the obviousness analysis. *In re Sovish*, 769 F.2d 738, 741, 226 (Fed. Cir. 1985). The non-analogous art test provides helpful insight on the underlying question of what is “prior art” within the meaning of the statute; we should not, however, be blind to the reality of the circumstances of the case before us. *In re Wood*, 599 F.2d 1032, 1036 (CCPA (1979)). Nor should we adhere to rigid and mandatory formulas that overly limit the inquiry. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007).

Focusing on the first of the two tests above, the test for analogous art “requires the PTO to determine the appropriate field of endeavor by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.” *In re Bigio*, 381 F.3d at 1325. We thus consider all explanations of the inventors’ subject matter while keeping in mind that prior art is analogous when it “is from the same field of endeavor, **regardless of the problem addressed. . . .**” *In re Bigio*, 381 F.3d at 1320 (emphasis added). Thus, “field of endeavor” should not be defined narrowly based only upon the specific problem addressed.

Moreover, when considering field of endeavor, we remain cognizant of the adage that “the name of the game is the claim.” *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998) (quoting Giles Sutherland Rich, *Extent of Protection and Interpretation of Claims—American Perspectives*, 21 Int'l Rev. Indus. Prop. & Copyright L. 497, 499 (1990)). The Supreme Court has articulated this same sentiment when emphasizing that the patentee's motivation and purpose do not control an obviousness determination:

In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.

*KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398 (2007).

Turning to the issues at hand while keeping this legal framework in mind, Appellants argue that a person of skill in the art would not have considered the Strange, Hill, and Yoshida prior art references because each of these references relates to the problem of electric transmission rather than the problem of electromagnetic shielding. Appeal Br. 8–10, 16–17. We find, however, that a person of ordinary skill in the art of the claimed invention would have been inclined to consider the Strange, Hill, and Yoshida references at the relevant time because each of those references is from the same field of endeavor as the invention as defined by Appellants' claims. In particular, claim 1 is generally directed to woven conductive filament textile sheaths. The Examiner correctly finds that Strange, Hill, and Yoshida are in the same field. Ans. 11–12. Each of these three references also relates to woven conductive filament textile sheaths. Ans. 2, 6, 11, 18. They are structurally similar to the apparatus of claim 1 and are capable of similar use. Ans. 11 (citing MPEP 2141.01(a)); *see also Bigio*, 381 F.3d at



1327 (affirming Board decision where Board found toothbrush prior art analogous to claimed hair brush because of structural and functional similarities). Thus, Strange, Hill, and Yoshida are analogous art, and the Examiner did not err in considering this art.

The Examiner applies the Laurent reference to claims 4 and 14 (Ans. 4, 8), and Appellants argue that Laurent is not analogous art because it “describes a self-closing thermal protection sheath” as opposed to relating to “electromagnetic protection.” Claim 4 and 14 recites the sheath of claims 1 and 2 respectively “wherein the sheath is a self-closing longitudinally slit sheath.” Appeal Br. 21 (Claims App’x). The claims thus address the problem of how to arrange a sheath’s opening and closing. Laurent is analogous even if not within the field of the inventor’s endeavor because it relates to opening and closing sheaths and is thus “reasonably pertinent to the particular problem with which the inventor is involved.” *In re Bigio*, 381 F.3d at 1325.

Rejection 1. As a third part of the Graham analysis, we consider the arguments Appellants raise concerning differences between the prior art and the claims at issue. We first focus on the Examiner’s rejection of claims 1–4, 8, 12–15, 20, and 21 under 35 U.S.C. § 103 as obvious over Strange in view of Hill. Appellants do not separately argue claims 2–4, 8, 12–15, 20, or 21 with respect to this rejection. We therefore limit our discussion to claim 1. Claims 2–4, 8, 12–15, 20, or 21 stand or fall with that claim. 37 C.F.R. § 41.37(c)(1)(iv) (2013).

The Examiner finds that Strange teaches all elements of claim 1 except that it does not specifically mention braided copper. Ans. 2 (providing citations to Strange). The Examiner finds that Hill teaches use of braided copper in conjunction with conductive woven fabric (citing Hill ¶¶

40 and 59) and provides adequate factual reasoning for combining the references. Ans. at 2–3. The preponderance of the evidence supports the Examiner’s reasoning and conclusions.

As a threshold matter, we note that Appellants do not appear to directly argue, except in passing, that the combination of Strand and Hill fail to teach any specific recitation of claim 1. Appeal Br. 13; Reply Br. 10–11 (arguing that “[t]he aggregate of the art thus overwhelmingly indicates that the sheath disclosed in the present application would be unsuitable for protecting against magnetic waves”). Meanwhile, the Examiner found, for example, that the conductive filaments of Strange would be capable of protecting against external electromagnetic signals. Appeal Br. 2. The art does not need to explicitly teach this functionality so long as it teaches structure capable of performing the function. *Cf. In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997) (“It is well settled that the recitation of a new intended use for an old product does not make a claim to that old product patentable.”). Where functional characteristics are described or suggested in the prior art, the burden shifts to the applicant to demonstrate that the prior art does not possess the claimed functionality. *In re Hallman*, 655 F.2d 212, 215 (CCPA 1981). Here, a preponderance of the evidence supports that the prior art would indeed be capable of “protecting against external electromagnetic signals.” Ans. 14–16.

Appellants also argue that modification of Strange in view of Hill would render Strange unsuitable for its intended purpose. Appeal Br. 9. The Examiner, however, correctly finds that utilizing braided copper with Strange would not change the principle of operation because doing so merely modifies the shape of Strange’s conductive filaments. Ans. 12. The Examiner also provides sufficient underlying factual basis for combining

Strange and Hill. *Id.* at 2–3. Appellants present no persuasive arguments to rebut these findings. Moreover, contrary to Appellants’ implied arguments (Appeal Br. 9), the record does not indicate that the Examiner posits any further modification of Strange.

Appellants also argue that it was not “common wisdom in the art” for there to be “no interconnection between the conductive elements.” Appeal Br. 13. Appellants cite two references not relied upon by the Examiner, Pithouse (European Patent Pub. 0 153 823, February 8, 1985) and Marks (U.S. Patent No. 6, 639,148, November 14, 2001) as supporting this argument. Appeal Br. 10–13. Appellants further argue that Pithouse and Marks “teach away” from the claimed invention by “stating that the conductive filaments must be electrically connected.” Appeal Br. 13. Appellants, however, provide no specific citations to Pithouse and Marks, and we fail to discern how Pithouse and Marks constitute a teaching away. To the extent that Pithouse and Marks disclose embodiments with connected filaments, Appellants direct us to no teachings in Pithouse or Marks stating that alternative embodiments with unconnected filaments would not function. This argument therefore does not establish Examiner error.

The Examiner appears to interpret the Appeal Brief as also arguing unexpected results. Ans. 14. While we do not agree that the Appeal Brief raises unexpected results as a secondary consideration, we agree that a preponderance of the evidence supports that it is not unexpected that the combination of Strange and Hill would protect against external electromagnetic signals. Ans. 14–16. Furthermore, even if it were true that one of skill in the art would not have expected the combination of Strange and Hill to be capable of protecting against external electromagnetic shielding, this unexpected result would still be inapposite to the obviousness

assessment because “the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999); *see also In re Spada*, 911 F.2d 705, 708 (Fed.Cir.1990) (“The discovery of a new property or use of a previously known composition, even when that property and use are unobvious from prior art, can not impart patentability to claims to the known composition.”). As the Examiner explains, even the Strange reference standing alone is capable of providing electromagnetic shielding. Ans. 14.

For the reasons explained above, Appellants have not identified reversible error in the Examiner’s first rejection, and we therefore sustain the Examiner’s rejection of claims 1–4, 8, 12–15, 20, and 21 as obvious over Strange in view of Hill.

Rejection 5. Before proceeding to dependent claims, we first address the Examiner’s second rejection of independent claim 1. The Examiner rejects claims 1–4, 8, 12–15, 20, and 21 as obvious over Yoshida in view of Strange in further view of Hill. Ans. at 6. Appellants agree that in form and function, Yoshida is “essentially identical to Strange.” Appeal Br. 16. Yoshida is thus analogous art for the same reasons Strange is analogous art and as explained above.

Appellants make no other arguments regarding this rejection, and we thus sustain the rejection.

Rejections 2 and 6. The Examiner also rejects claims 4 and 14 as obvious over Strange in view of Hill and further in view of Laurent (Rejection 2) and as obvious over Yoshida in view of Strange in further view of Hill and Laurent (Rejection 6). Ans. 4, 8. Appellants argue that Laurent

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is non-analogous art but make no other separate argument concerning these rejections. Appeal Br. 14, 17–18. Laurent, however, is analogous art for the reasons explained above. We thus sustain these two rejections.

Rejections 3, 4, 7, and 8. Appellants raise no arguments with respect to these rejections other than those addressed above. Appeal Br. 13–16, 18–19. We therefore sustain these rejections.

#### DECISION

For the above reasons, we affirm the Examiner’s rejection of claims 1–4, 8, 11–15, and 19–21.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED